

**REMARKS**

It is believed that the following remarks attend to all rejections and objections presented in the pending April 26, 2004 office action; these remarks are numbered with corresponding paragraphs to this office action.

On July 13, 2004, Curtis Vock (counsel for the assignee hereof) called Examiner Datskovskiy because the reference JP 405308111A ("Kuwabara") could not be located in papers sent from the Patent Office. In the teleconferences, Examiner Datskovskiy agreed to fax Kuwabara to Curtis Vock. The facsimile arrived also on July 13, 2004.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 112**

Claim 6 stand rejected due to an error reciting how gravity affects fluid from the condenser to the die. The Examiner's interpretation of claim 6 is correct and claim 6 is amended to correct the typographical error.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 103**

Claims 1-6 stand rejected as being unpatentable over U.S. Patent No. 4,450,472 ("Tuckerman") in view of Kuwabara. We disagree.

Kuwabara is a foreign language document and the Examiner has specifically relied upon the full text of Kuwabara in citing figures 1-14. See page 3 of the current Office Action. According to MPEP §706.02, if a cited reference document "is in a language other than English and the Examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon to support the rejection" (emphasis added). Here, no English translation was supplied (other than an abstract), and yet Applicants are entitled to an English translation so that the exact reasons for the rejection are clear. The abstract supplied with Kuwabara is not cited as the basis for the rejection, nor does it disclose text about every figure 1-14 as specifically referenced by the Examiner. Accordingly the abstract is not sufficient to form the basis for response and the record remains unclear.

Nonetheless, and with regard to Tuckerman, we disagree that Tuckerman discloses what the Examiner sets forth in paragraph 4 of the present action. In particular, Tuckerman teaches a method for heat removal in an integrated circuit using microscopic channels. These channels are formed by fins 14; a cover 20 affixes to the chip 10 so as to form a chamber for coolant flow. See Tuckerman, col. 2, lines 50-61. There is not however any disclosure or teaching within Tuckerman of (a) communicating fluid from the die to a condenser arranged above the die, (b) cooling fluid at the condenser, and (c) communicating fluid from the condenser to the micro-channels – as required by claim 1.

The Examiner relies upon Tuckerman – at col. 4, lines 56-59 – as if this section discloses a condenser; however this is not so. This section merely states that a glass cover 69 defines a coolant chamber with the fins 61; there is no teaching of a "condenser" as disclosed in the present application (and claimed in claims 1-6). Tuckerman does not, further, discuss where tubes 70, 72 connect to; certainly there is no disclosure that they connect to a condenser arranged above a die, as in claim 1. The word "condenser" is entirely absent from Tuckerman.

With respect to the English abstract only, Kuwabara also does not disclose the method steps of claim 1. If the Examiner persists with the rejection of the claims based on Kuwabara, an English translation is hereby requested.

Claims 2-6 depend from claim 1 and benefit from like arguments. But, note also that these claims have additional reasons for patentability, including, for example:

- o Tuckerman does not disclose the step of shaping the micro-channels for preferential fluid flow along the micro-channels as in claim 4. From what can be discerned, Kuwabara also does not disclose feature(s) of claim 4.
- o Tuckerman does not disclose the step of utilizing headers coupled with the micro-channels as in claim 5. Tuckerman in fact teaches away from "headers" since, for example, only empty space of the chamber

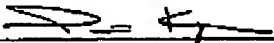
connects tubes 70, 72 to fins 61. See Tuckerman, FIG. 7. It would appear that Kuwabara also does not disclose feature(s) of claim 5.

- o Tuckerman does not disclose utilizing gravity to force the fluid to the die, as in claim 6. It would appear that Kuwabara also does not disclose feature(s) of claim 5.

The following is a quotation of from the MPEP setting forth the three basic criteria that must be met to establish a *prima facie* case of obviousness: To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP, §2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Clearly, Tuckerman (and, from what can be discerned of Kuwabara) does not teach each and every element of claims 1-6. Therefore, this cited art fails under 35 U.S.C. §103. Reconsideration and allowance of claims 1-6 are now requested. Should any rejections persist, we ask to interview this application.

We have now argued and/or attended to each rejection in the pending office action of April 26, 2004. It is believed that no fees are due in connection with this amendment. If any additional fee is due, please charge Deposit Account No. 08-2025.

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